

REMARKS

The present Amendment amends claims 15, 18, 21 and 24 and leaves 16, 17, 19, 20, 22, 23, 25 and 26 unchanged. Therefore, the present application has pending claims 15-26.

Applicants respectfully request the Examiner to contact Applicants Attorney, the undersigned, by telephone so as to discuss the outstanding issues of the present application prior to examination thereof.

Filed on even date herewith are Proposed Drawing Corrections to correct informalities in Fig. 1. Approval of the same is respectfully requested.

Claims 18-20 and 24-26 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. Various amendments were made throughout claims 18-20 and 24-20 to bring them into conformity with the requirements of 35 USC §112, second paragraph. Therefore, Applicants submit that this rejection is overcome and should be withdrawn.

Specifically, amendments were made to claims 18-20 and 24-26 to overcome the objections noted by the Examiner in paragraph 4 of the Office Action.

The Examiner's cooperation is respectfully requested to contact Applicants' Attorney by telephone should any further indefinite matter be discovered so that appropriate amendments may be made.

Claims 15-26 stand rejected under 35 USC §102(b) as being anticipated by Anderson (U.S. Patent No. 4,437,161). This rejection is traversed for the following reasons. Applicants submit that the features of the

present invention as now more clearly recited in claims 15-26 are not taught or suggested by Anderson whether taken individually or in combination with any of the other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims so as to describe features of the present invention. Particularly, amendments were made to the claims so as to more clearly recite that the present invention is directed to an object detecting method and apparatus for detecting an object in an image obtained from an image pick-up means.

According to the present invention, the object detecting method includes a frame subtraction step of executing a plurality of frame of subtraction processings each frame subtraction processings being between an input image from the image pick-up means and respective ones of a plurality of images each having a different time interval with respect to the time interval of the input image, a synthesizing step of adding together a plurality of different images obtained by the frame subtraction processings based on coefficients which are set for respective ones of predetermined regions of the image and an object detecting step of detecting an object based data obtained from the synthesizing step.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention are not taught or suggested by Anderson.

Anderson teaches a medical imaging apparatus as illustrated, for example, in Figs. 2 and 7 having an image subtractor 30, a comparator 32, a counter 34 connected to the output of the comparator 32 and an evaluation circuitry 36 which is connected to the output of the comparator 34. As taught in Anderson, a first image signal I1 and a second image signal I2 are applied to the subtractor 30 wherein the first image signal I1 is a reference signal. As per Andersons, the subtractor 30 subtracts pixel by pixel the reference signal intensity of the signal I1 from the live signal intensity of the signal I2 and the output signal A of the subtractor 30 is applied to the display device 22.

As is quite clear from the above, and as is clearly illustrated in Figs. 1 and 7 of Anderson, there is a teaching of only one subtractor 30. Thus, in Anderson, a plurality of frame subtraction processings are not conducted as in the present invention as recited in the claims. In the present invention as illustrated, for example, in Fig. 1 a plurality of subtraction units 112-1 through 112-4 are provided and such subtraction units 112-1 through 112-4 are combined with synthesizing means 113-1 through 113-4 and adder 114. By use of the above described structure of the present invention as recited in the claims and as illustrated in Fig. 1 of the present application is becomes possible to change the frame time interval for perform the frame subtraction processings and to add together a plurality of differential images so as to control differential values of the objects that appear and move in the differential images at different speeds. Such processings are impossible to achieve with the apparatus taught by Anderson since at a minimum a plurality of subtraction units are not provided. Thus, Anderson cannot conduct a

plurality of frame processings relative to a plurality of differential images as in the present invention as recited in the claims.

Thus, Anderson fails to teach or suggest a frame subtraction step of executing a plurality of frame subtraction processings each frame subtraction processings being between input image from the image input means and respective ones of a plurality of images each having a different time interval with respect to the time interval of the input image as recited in the claims.

Further, Anderson fails to teach or suggest a synthesizing step of adding together a plurality of differential images obtained by the frame subtraction processings based on coefficients which are set for respective ones of predetermined regions of the image and an object detecting step of detecting an object based on data obtained from the synthesizing step as recited in the claims.

Therefore, Anderson fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §102(b) rejection of claims 15-26 as being anticipated by Anderson is respectfully requested.


The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the reference utilized in the rejection of claims 15-26.

In view of the foregoing amendments and remarks, applicants submit that the present application is now in condition for allowance based on claims 15-26. Accordingly, early allowance of claims 15-26 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (500.40713X00).

Respectfully submitted,

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